

Translation

PATENT COOPERATION TREATY

PCT/JP2003/013849



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 144971-077	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/013849	International filing date (day/month/year) 29 October 2003 (29.10.2003)	Priority date (day/month/year) 30 October 2002 (30.10.2002)
International Patent Classification (IPC) or national classification and IPC H01L 21/205, C23C 16/52		
Applicant TOKYO ELECTRON LIMITED		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☒ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 05 April 2004 (05.04.2004)	Date of completion of this report 01 September 2004 (01.09.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

1-12

YES

Claims

NO

Inventive step (IS)

Claims

YES

Claims

1-12

NO

Industrial applicability (IA)

Claims

1-12

YES

Claims

NO

2. Citations and explanations (Rule 70.7)

Claims 1, 3-10 and 12

Document 1: JP, 2001-144019, A (Tokyo Electron Limited)

May 25, 2001 (05.25.01), Paragraphs 0008-0029, Figs. 1-6

Document 1 describes a film-forming device comprising a holding unit holding a plurality of substrates, a reaction container into which the holding unit, a treating gas supply mechanism that supplies a treating gas to the reaction container, and a heating mechanism that performs a film-forming processing on the substrate by heating the reaction container at the time of supplying a treating gas, wherein a flow-rate parameter table that corresponds data of the number of substrates to be treated in one batch with target value data of the flow-rate parameter for a treating gas is measured in advance, control is performed by a flow-rate parameter table that stores such data, a heat treating device having control means for controlling the flow rate of gas based on parameter data, and by temperature table data, and control is performed according to the actual number of embedded wafers.

Document 2: JP, 2000-340554, A (Tokyo Electron Limited)

December 8, 2000 (12.08.00)

Paragraphs 0009-0026, Figs. 1-9 (A)(B)

Document 2 describes technology for controlling film-forming parameters so as to set the same film-forming rate to be roughly the same as that of the standard process.

Controlling by focusing on the film-forming rate as described in document 2 in order to improve reproducibility of the process in the invention described in document 1 would be obvious to a party skilled in the art.

Claims 2 and 11

Claims 2 and 11 set a parameter that is the difference between a minimum value and maximum value when an average film thickness of a thin film to be coated on the substrate by each batch treatment is divided by treatment time at 0.05nm/min. However, determining a value to set for such parameter would be necessarily arrived at by a party skilled in the art. Therefore, claims 2 and 11 could be easily conceived of by a party skilled in the art based on documents 1 and 2.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2003-77782 A [E,X]	14.03.2003	31.08.2001	

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)